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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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TRAN, MY CHAU T

ART UNIT	PAPER NUMBER
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2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/02/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/805,108

Applicant(s)

PARK, WOO-SEOG

Examiner

MY-CHAU T. TRAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/26/06</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Application and Claims Status***

1. Claims 1-33 are currently pending and are under consideration in this Office Action.

### ***Priority***

2. Receipt is acknowledged of papers, (i.e. Korean Patent Application No(s). 10-2003-0020521; Filed: April 1, 2003), submitted on 12/06/2006 under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

3. The information disclosure statement (IDS) filed on 07/26/2006 has been reviewed, and the references that have been considered are initialed as recorded in PTO-1449 form(s).

### ***Drawings***

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description. Here, paragraph [00045] of the instant specification recite reference #135, however, this reference number is not found in figure 2. Thus, the drawings are objected to as failing to comply with 37 CFR 1.84(p)(5). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing

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date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to because in figure 2, the reference #139 refer to a structure label as GP10, however, paragraph [00047] recite that the reference #139 refer to a structure label as a general-purpose input/output (GPIO) unit, i.e. GPIO. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

6. Claim 26 is objected to because of the following informalities: In claim 26, the acronym GPIO is not defined in the claim so that those who are ordinary skills in the art would know applicant intended meaning. It should be define on its first appearance. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. The term “adapted to” of claims 1-3, 8, 11, 13, 16, 19, 21, and 28 is vague and indefinite because it is unclear whether the claimed structure could performed the recited function. Consequently, claims 1-3, 8, 11, 13, 16, 19, 21, and 28 and all its dependent claims are rejected under 35 U.S.C. 112, second paragraph. It is suggested that applicant replace the term ‘*adapted to*’ to ‘*means for*’ in order to overcome this rejection.
- b. The apparatus claimed in claims 1 and 2 is inconsistent with the apparatus disclose in the instant specification. See MPEP §2173.03. Claim 1 recite an apparatus comprising the structure of a) converting means, b) switching means, and c) enabling means that ‘*turn the converting means off and on*’, and claim 2

recite that the apparatus further comprises a comparing means that ‘*determine whether the output of the voltage source is at least a predetermined value*’, i.e. the claimed apparatus include an additional structure that perform a different function. The instant specification discloses an apparatus comprising a controller that a) measures the output voltage of the power source; b) compares the measured voltage of the power source to a predetermined value; c) generates a signal to activate the switching unit if the power source output is at or above the predetermined value; and d) generates a signal to activate the converter unit if the power source output is below the predetermined value (see specification paragraph [00044]; fig. 2, ref. #124). That is the instant specification disclosure describe an apparatus comprising ***a single*** structure that perform the functions of a) compares the measured voltage of the power source to a predetermined value, and b) turning on and off the converter and the switch unit base on the comparison of the measured voltage of the power source. Consequently, claims 1 and 2, and all its dependent claims are rejected under 35 U.S.C. 112, second paragraph. It is suggested that claim 2 is amended by replacing “*further comprising comparing means adapted to*” to ‘wherein the enabling means further comprises the means for’ in order to overcome this rejection.

- c. The recitation of “*wherein the converting means is turned off and the output of the voltage source is applied to the backlight illumination unit when the output of the voltage source is at least the predetermined value and the converting means is turned on and the constant voltage is applied to the backlight illumination unit*”

*when the output of the voltage source is below the predetermined value*” of claim 2 is vague and indefinite with regard to the claimed structure, i.e. a comparing means, because it is unclear as to the relationship among the instant claimed enabling means, switching means, and comparing means, i.e. are these separate and distinct structures or are they synonymous with each other. That is the instant limitation claimed that the comparing means also has the function of turning on and off the convert means, which is the claimed function of the enabling means of claim 1, and applying either the voltage from the voltage source or the constant voltage to the backlight illumination unit, which is the claimed function of the switching means of claim 1. Therefore, claim 2 and all its dependent claims are rejected under 35 U.S.C. 112, second paragraph.

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-4, 7-15, 18, 20, 21, 23, 26, 28-30, 32 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakamura (US Patent 7,138,992 B2; *filing date 09/03/2002*).

For *claim(s) 1, 7, 10, 11, 18, 20, 21, 23, and 28*, Nakamura discloses a driving circuit for a portable electronic device (see e.g. col. 1, lines 10-17; col. 3, lines 29-62; figs. 1-20). The

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circuit comprises an organic EL display device (ref. #21)(refers to instant claimed display), an organic EL display power source (ref. #22), and a power source (ref. #23)(refers to instant claimed a voltage source)(see e.g. col. 5, lines 25-31; figs. 1 and 2). The display includes light emitting diode (LED) that illuminates the display (refers to instant claimed backlight illumination unit and instant claim 28)(see e.g. col. 3, lines 58-62; claim 5). The organic EL display power source includes a DC/DC converter (refers to instant claimed converting means/converting unit/converter and instant claims 7, 18, 23, and 28), a converter controlling section (ref. #41)(refers to instant claimed enabling means/controller), and an FET (ref. #43)(refers to instant claimed switching means/switching unit/switch, and instant claims 10, 20, and 28)(see e.g. col. 5, lines 52-54; figs. 1 and 2). The converter controlling section turns on and off the FET, i.e. applying either the voltage from the voltage source or from the converting controlling section to the organic EL display device, and as a result, also controls the DC/DC converter, i.e. turn on and off the converter (see e.g. col. 5, lines 31-36 and 54-57; fig. 1).

For *claims 2, 11, 12, 21 and 26*, Nakamura discloses that converter controlling section comprises a controller (ref. #52)(refers to instant claim 26), and a comparator (ref. #53)(refers to instant claimed comparing means)(see e.g. col. 6, lines 1-14). The controller (ref. #52) based on the comparison signal from the comparator (ref. #53) turns on and off the FET, and as a result, the converter controlling section controls the DC/DC converter (see e.g. col. 5, lines 31-36 and 54-57; col. 6, lines 1-14; fig. 1).

For *claims 3, 4, and 13-15*, Nakamura discloses an output dividing section (ref. #25) that comprises resistors (ref. #61 and 64)(refers to instant claim 14) that divide the output voltage (see e.g. col. 6, lines 40; fig. 1). The factor use for dividing the output voltage has a range from



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5/15 to 5/8 (33% to 65%)(refers to instant claimed approximately 50%)(see e.g. col. 7, lines 24-53).

For **claims 8 and 9**, Nakamura discloses FET Q<sub>1</sub> and Q<sub>2</sub> (refers to instant claimed second enabling means /transistor) that control the LED independent of the converting means (see e.g. col. 6, lines 15-67; col. 7, line 65 thru col. 8, line 35).

For **claims 28-30, 32, and 33**, Nakamura discloses the method of driving the display comprising the steps of a) measuring the output voltage from the voltage source (refers to instant claimed measuring step); b) comparing the measured voltage with the reference voltage; c) turning the converting means on and off based on the comparison signal from the comparator (refers to instant claimed turning step); and c) dividing the voltage from the converting means (see e.g. col. 5, lines 25-36 and 48-56; col. 6, lines 1-14; col. 7, lines 24-53). The constant voltage of the converting means is at least the predetermine value (see e.g. col. 6, lines 1-14). Additionally, Nakamura discloses the step of controlling the LED independent of the converting means (refers to instant claim 33)(see e.g. col. 6, lines 15-67; col. 7, line 65 thru col. 8, line 35).

Therefore, the apparatus of Nakamura do anticipate the instant claimed invention.

11. Claims 1, 2, 7, 11, 12, 18, 21, 23, and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Hartular (US Patent 6,873,322; *filing date 06/07/2002*).

For **claims 1, 2, 7, 11, 12, 18, 21, 23, and 27**, Hartular discloses an adaptive LCD (liquid crystal display) power supply circuit and an electronic device (see e.g. Abstract; col. 1, line 49 thru col. 2, line 6). As illustrated in figure 1, the electronic device comprises power source (refers to instant claimed a voltage source), an adaptive LCD power supply circuit, and an LCD

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(refers to instant claimed display and instant claim 27)(see e.g. col. 1, line 63 thru col. 6; col. 2, line 56 thru col. 3, line 16; col. 4, lines 3-6). As illustrated in figure 2, the adaptive LCD power supply circuit comprises a regulating circuit and a sensor (see e.g. col. 3, line 38-50). The regulating circuit comprises a DC/DC converter (refers to instant claimed converting means/converting unit/converter and claims 7, 18, and 23); a pulse width modulated (PWM) switching circuit; and a comparator (refers to instant claimed comparing means) that generate the PWM signal (see e.g. col. 3, lines 51-65). As illustrated in figure 3, the adaptive LCD power supply circuit comprises a light source such as the light emitting diode (LED)(refers to instant claimed backlight illumination unit), a switch (ref. #313)(refers to instant claimed switching means), and a the minimum decision circuit (ref. #320)(refers to instant claimed enabling means/controller)(see e.g. col. 4, line 1 thru col. 5, line 10). The minimum decision circuit controls the switch and the DC/DC converter, i.e. turn on and off, that base on the signal generated by the comparator (see e.g. col. 4, lines 36-55).

Therefore, the device of Hartular does anticipate the instant claimed invention.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Son et al. (US Patent 6,278,887 B1), Burton (US Patent 6,529,182 B1), and Woods et al. (US Patent 6,807,430 B2). Both Son et al. and Woods et al. disclose a system and method for power conservation of portable communication device. Burton discloses a system and method for efficient controlled for LED backlight.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to MY-CHAU T. TRAN whose telephone number is 571-272-0810. The examiner can normally be reached on Monday: 8:00-2:30; Tuesday-Thursday: 7:30-5:00; Friday: 8:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

My-Chau T. Tran  
February 27, 2007



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